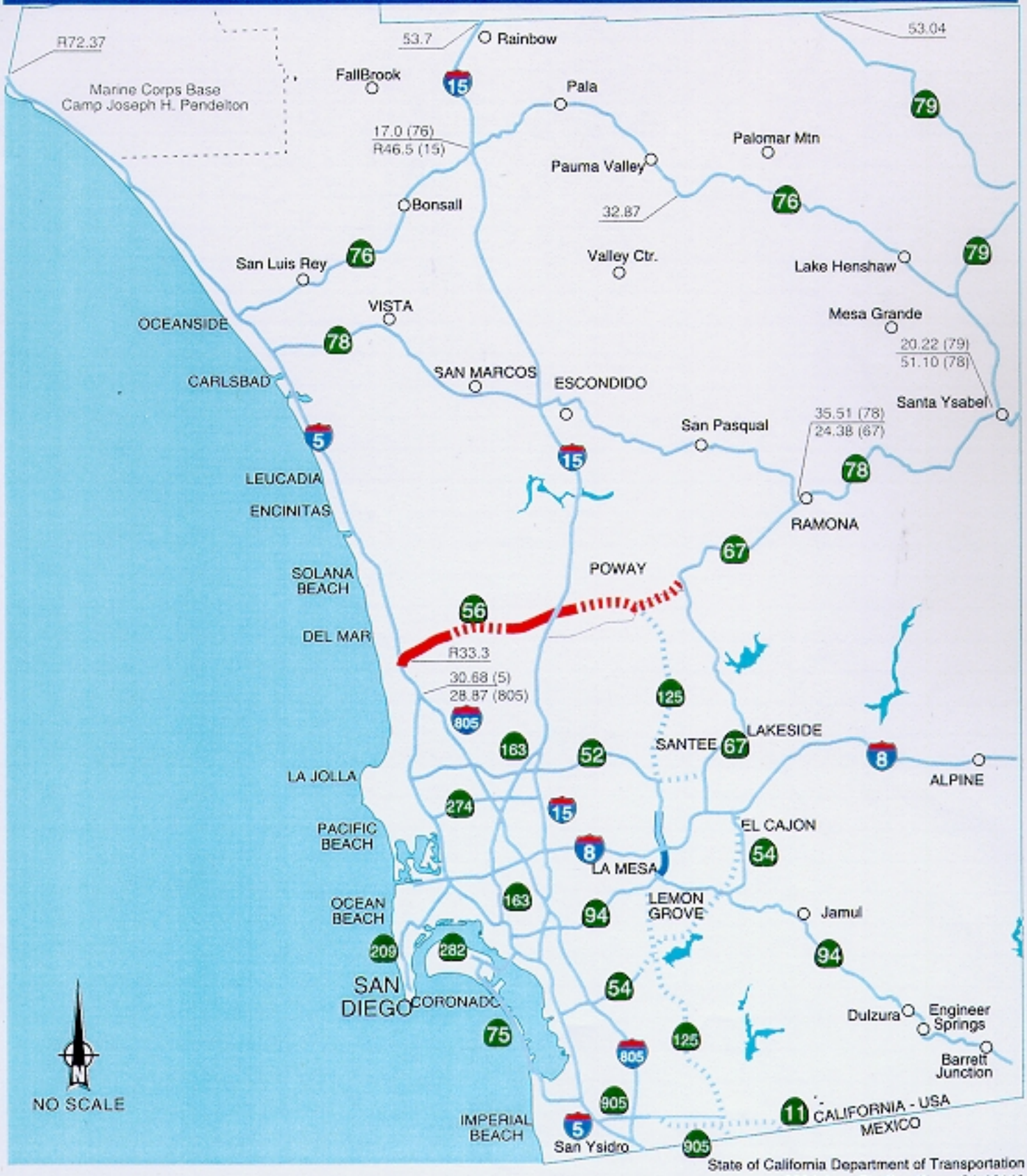
SR-56 TRANSPORTATION CONCEPT REPORT

DISTRICT 11 - System Planning

October 1999



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11-SD-56 P.M. 0.0-17.0

This Transportation Concept Report (TCR) is a planning document which describes the Department's basic approach to the development of a given corridor. Considering reasonable financial constraints and projected travel demand, this TCR establishes a 20 year transportation planning concept for State Route 56 (SR-56) and identifies modal transportation options needed to achieve the concept. The concept considers operating levels of service (LOS), modal improvements, and new technologies. The TCR also considers potential long term needs for the corridor beyond the 20 year planning period. The long term needs focus on the Post-2020 Ultimate Transportation Corridor (UTC).

The TCR is a preliminary planning phase that leads to subsequent programming and the project development process. As such, the specific proposed nature of improvements (i.e., number of lanes, access control, etc.) may change in later project development stages, with final determinations made during the project study report (PSR), project report (PR), and design phases.

Each TCR must be viewed as an integral part of a planned system. The TCR is based on the completion of the 20 year system. The system has been developed to meet anticipated travel demand generated from regional growth forecasts. Removal of any portion of a route from the system will adversely affect travel on parallel or intersecting routes.

The TCR is prepared by Caltrans District staff in cooperation with local and regional agencies. They will be updated as needed, as conditions change, or as new information is obtained.

The focus of the TCR is the 2020 Transportation Concept, which includes State highway, transit, system management and travel reduction, goods movement, international border, aviation and nonmotorized components.

ROUTE DESCRIPTION

State Route 56 (SR-56) is a partially constructed State highway route in west-central San Diego County. The adopted route alignment extends easterly from its junction with Interstate 5 (I-5) just south of Carmel Valley Road (P.M. SD R32.9), to State Route 67 (SR-67) (P.M. SD 15.2), approximately eight miles southwest of the town of Ramona. It is the only major east/west route connecting I-5 and Interstate 15 (I-15) within the 22 mile area separating State Route 52 (SR-52) and State Route 78 (SR-78).

SR-56 (originally Route 278), was added to the California Freeway and Expressway (F&E) System in 1959 and was adopted as a 17 mile long freeway by the California Highway Commission in 1965. In November 1970, Caltrans held a public hearing to

discuss the design features of SR-56. Because of a lack of construction funds, the route studies were suspended. Due to the passage of the local sales tax initiative (Proposition A - TransNet) in November 1987, construction funds were provided for portions of SR-56, placing new emphasis on building this route.

Purpose of Route

The primary purpose of SR-56 will be to provide east/west mobility for the developing west-central San Diego County urban area. SR-56 will provide a much needed east/west connection between I-5 (P.M. SD 0.0) and I-15 (PM SD 9.2). It is also expected that SR-56 will carry significant commute traffic, particularly between the residential developments of Del Mar, North City West, Rancho Penasquitos, Sabre Springs, Carmel Mountain Ranch, Poway, and the employment centers at Sorrento Valley, Sorrento Hills and Rancho Bernardo.

SR-56 from I-15 to SR-67 is an unconstructed, legislatively designated state highway with an adopted route location. Traffic currently traverses existing city streets owned and operated by the City of San Diego and the City of Poway. There are no plans for any state highway improvements within this portion of SR-56. However, future studies are needed to determine if this portion of SR-56 should be unadopted and removed from the State highway system or if the adopted route location or a new location should be developed as a State highway facility.

The existing facility and operating conditions for SR-56 are shown in Table S-1.

TABLE S-1
EXISTING FACILITY AND OPERATING CONDITIONS

	Segment/ County/ Post Mile	Location	# of Lanes/ Facility Type	1997 ADT*	Peak Hour V/C Ratio	Peak Hour Operating LOS
1	SD 0.0 - 1.8	I-5 to Carmel Country Road	4F	13 100	0.22	A
2	SD 1.9 - 7.2	Carmel Country Road to Black Mountain Road	unconstructed			
3	SD 7.2 - 9.2	Black Mountain Road to I-15	4F	26 800	0.40	B
4	SD 9.2 -11.5	I-15 to Twin Peaks Road	unconstructed**			
5	SD 11.5- 14.4	Twin Peaks to Future SR-125	unconstructed**			
6	SD 14.4 -17.-0	Future SR-125 to SR-67	unconstructed**			

* ADT (Average Daily Traffic) shown is a five-day ADT derived from seven-day ADTs developed by Caltrans' Traffic Census.
** Existing traffic utilizes existing city streets owned and operated by the City of San Diego and the City of Poway.
6F = Six lane freeway
V/C = Volume to Capacity

2020 TRANSPORTATION CONCEPT FACILITY IMPROVEMENTS

Table S-2 shows improvements to SR-56 that are part of the 2020 Transportation Concept. This table does not include projects currently under construction. The peak hour V/C ratio and peak hour Operating LOS listed assume completion of the proposed highway improvements.

TABLE S-2
2020 TRANSPORTATION CONCEPT FACILITY IMPROVEMENTS

Segment/ County/ Post Mile	Location	Improvement Description	Peak Hour V/C Ratio	Peak Hour Operating LOS	Concept LOS
1 SD 0.0	SR-56/I-5	Improve Interchange			
1 SD 0.0 - 1.8	I-5 to Carmel Country Road	Upgrade 4F to 6F + 2HOV/TA *	0.76	C	E
2 SD 1.8 - 7.2	Carmel Country Road to Black Mountain Road	Construct 4F, then upgrade to 6F + 2HOV/TA	0.72	C	E
2	Camino Santa Fe	Construct interchange			
2	Camino Ruiz	Construct interchange			
3 SD 7.2 - 9.2	Black Mountain Road to I-15	Upgrade from 4F to 6F + 2HOV/TA	0.58	B	E
3 SD 7.2	Black Mountain Road	Completion of interchange			
3 SD 9.2	SR-56/I-15	Improve Interchange			

LOS = Level of Service
V/C = Demand to Capacity Ratio
TA = Transit Alternative
Concept LOS is based on the SANDAG CMP minimum LOS standard and Caltrans system planning guidelines.

* Median width in this segment may not be sufficient to provide a potential at-grade transit corridor. Future studies are needed to determine the most appropriate type of transit and how it could be constructed in this segment.

TRANSPORTATION CONCEPT REPORT
STATE ROUTE 56 (SR-56)
11-SD-56 P.M. 0.0-17.0

INTRODUCTION AND STATEMENT OF PLANNING INTENT

The system planning process consists of three products: the District System Management Plan (DSMP), the Transportation System Development Plan (TSDP), and the Transportation Concept Report (TCR).

The DSMP describes how the District intends to maintain, manage, and improve the District transportation system over the next 20 years. The DSMP is developed in partnership with regional and local transportation planning agencies. The DSMP summarizes 20 year planning concepts and proposed transportation improvements on a system wide level, and influences the development of future transportation concepts and development plans. It integrates land use, modal opportunities, regional arterial plans, transportation system management, transportation demand management, highway system improvements, and the District highway network into a comprehensive transportation program. The DSMP serves as the foundation for the TSDP and the TCRs.

The Transportation System Development Plan (TSDP) is an internal Caltrans system planning document. Its purpose is to identify by district a reasonable and effective list of multimodal transportation improvements (infrastructure/capital outlay), strategies, and demand and system management options to improve statewide, interregional and regional mobility and intermodal transfer of people and goods. It includes both a Recommended Plan and a Cost Constrained Plan component, and categorizes improvements into two time frames, 2001-2015 and post-2015. It is based on analysis of current and projected future travel demand. The TSDP replaces the District 11 Route Development Plan.

The TSDP is an internal "sketch" planning document that broadens the Department's assessment of mobility options at an early preliminary planning stage. It expands system planning from a basic analysis of state highway route deficiencies to a larger integrated intermodal and multimodal analysis of travel corridors. The TSDP joins the principles, practices, and concepts of the Advanced Transportation System Development (ATSD) program to system planning.

Improvements, strategies, and system management options identified in the TSDP will be Caltrans "candidates" for further detailed examination in state, metropolitan, regional or local studies and processes. The TSDP is also the Department's initial identification of areas under consideration for major investment studies (MIS) with metropolitan agencies and rail/transit operators.

The TCR process was discussed in the Transportation Concept Summary.

ROUTE DESCRIPTION

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SR-56 (originally Route 278), was added to the California Freeway and Expressway (F&E) System in 1959 and was adopted as a 17 mile long freeway by the California Highway Commission in 1965. In November 1970, Caltrans held a public hearing to discuss the design features of SR-56. Because of a lack of construction funds, the route studies were suspended. Due to the passage of the local sales tax initiative (Proposition A - TransNet) in November 1987, construction funds were provided for portions of SR-56, placing new emphasis on building this route.

Purpose of Route

The primary purpose of SR-56 will be to provide east/west mobility for the developing west-central San Diego County urban area. SR-56 will provide a much needed east/west connection between I-5 (P.M. SD 0.0) and I-15 (PM SD 9.2). It is also expected that SR-56 will carry significant commute traffic, particularly between the residential developments of Del Mar, North City West, Rancho Penasquitos, Sabre Springs, Carmel Mountain Ranch, Poway, and the employment centers at Sorrento Valley, Sorrento Hills and Rancho Bernardo.

SR-56 from I-15 to SR-67 is an unconstructed, legislatively designated state highway with an adopted route location. Traffic currently traverses existing city streets owned and operated by the City of San Diego and the City of Poway. There are no plans for any state highway improvements within this portion of SR-56. However, future studies are needed to determine if this portion of SR-56 should be unadopted and removed from the State highway system or if the adopted route location or a new location should be developed as a State highway facility.

Existing Facility Classifications

The functional classification for each segment of SR-56 is shown in Table 1.

California Senate Bill 300, enacted in 1989, created an Interregional Road System. Subsequently, Section 164.3 of the California Streets and Highways Code directed Caltrans to develop and submit to the Legislature an Interregional Road System (IRRS) Plan by February 1, 1990. In accordance with this plan, the IRRS is a series of

interregional state highway routes outside the urbanized areas that provides access to, and links between, the state's economic centers, major recreational areas, and urban and rural regions. SR-56 is not included as part of the IRRS.

The National Highway System (NHS) Designation Act of 1995 was enacted by Congress in November, 1995. The purpose of the NHS is to provide an integrated national highway system that serves both urban and rural America; to connect major population centers, international border crossings, ports, airports, public transportation facilities, and other major travel destinations; to meet national defense requirements; and to serve interstate and interregional travel. The new NHS includes the Interstate System routes. In Caltrans District 11, the NHS totals 789.0 km (490.3 miles). SR-56 is not included as part of the NHS.

The portions of SR-56 from I-5 (P.M. SD 0.0) to Carmel Country Road (PM SD 1.8) and from Black Mountain Road (PM SD 7.2) to I-15 (PM SD 9.2) are not specifically designated as part of the national network for Surface Transportation Assistance Act (STAA) trucks, however, trucks with a 40 foot Kingpin to Rear Axle Length (California Legals) are allowable.

To emphasize corridors that are most essential to the California economy in terms of national and international trade, a transportation network known as the Intermodal Corridors of Economic Significance (ICES) has been developed by Caltrans. To be included in the ICES system, a route should provide access between major freight intermodal facilities and serve freight traffic with the NAFTA countries of Canada and Mexico, as well as the Pacific Rim and other U.S. trade markets. The route should carry high interstate and international freight volumes and value important to the economy of California. SR-56 is not included in the ICES system.

The Caltrans District 11 designated International Border Trade Corridor (IBTC) system consists of transportation corridors which link ports of entry and international border regions to the existing transportation system. These corridors will be the principle conduits for movement of people and goods as the overall demand for transportation increases in and out of California and the United States. SR-56 is not included in the IBTC system.

SR-56 is not included in on the statewide list of Life Line Routes utilized for earthquake emergency response.

SR-56 is not designated as part of the California State Scenic Highway System, however, Caltrans has implemented above-standard landscaping and roadway features from I-5 to Carmel Country Road and Black Mountain Road to I-15 to ensure that the portion of SR-56 from I-5 to I-15 be considered eligible for nomination.

For maintenance programming purposes, the State Highway System has been classified as Class 1, 2, and 3 highways based on the Maintenance Service Level (MSL) descriptive definitions:

MSL 1 contains route segments in urban areas functionally classified as Interstate, Other Freeway/ Expressway, or Other Principal Arterial. In rural areas, the MSL 1 designation contains route segments functionally classified as Interstate or Other Principal Arterial.

MSL 2 contains route segments classified as an Other Freeway/Expressway or Other Principal Arterial not in MSL 1, and route segments functionally classified as minor arterials not in MSL 3.

MSL 3 indicates a route or route segment with the lowest maintenance priority. Typically, MSL 3 contains route segments functionally classified as major or minor collectors and local roads, route segments with relatively low traffic volumes, and route segments being considered for relinquishment, rescission, or where a new alignment will replace the existing facility. Route segments where the District does not anticipate spending money and route segments where route continuity is necessary are also assigned an MSL 3 designation.

SR-56 is classified as MSL 1.

Route Segments

SR-56 will be examined in eight segments for traffic analysis purposes. Table 1 lists the segmentation for this route and includes some of the information used as criteria for segment divisions.

TABLE 1
ROUTE SEGMENTATION

	Segment/ County Post Mile	Location	No. Lanes/ Facility Type	Rural/ Urban	Functional Classification
1	SD 0.0 - 1.8	I-5 to Carmel Country Road	4F	Urban	Other Freeway or Expressway
2	SD 1.8 - 7.2	Carmel Country Road to Black Mountain Road	unconstructed	Urban	Proposed Other Freeway or Expressway
3	SD 7.2 - 9.2	Black Mountain Road to I-15	4F	Urban	Other Freeway or Expressway
4	SD 9.2 -11.5	I-15 to Twin Peaks Road	unconstructed	Urban	Other Principal Arterial*
5	SD 11.5- 14.4	Twin Peaks to Future SR-125	unconstructed	Urban	Other Principal Arterial/Minor Art.*
6	SD 14.4 -17.-0	Future SR-125 to SR-67	unconstructed	Rural	Major Collector*

* Functional Classification is for existing city streets.

Existing Facility

SR-56 is a four lane freeway from I-5 to east of Carmel Country Road. SR-56 is unconstructed from 0.4 mile east of Carmel Country Road to Black Mountain Road. It is a four lane freeway from Black Mountain Road to I-15. The remainder of the route from I-15 to SR-67 is unconstructed.

A physical description of the existing facility in a segment-specific format is shown in Table 2.

TABLE 2
EXISTING FACILITY GEOMETRICS

Segment	County/ Post Mile	No. Lanes & Facility Type	Lane Width[1]	Outside Shoulder Width	Inside Shoulder Width	Max. R/W Width	Median Width	Grade Line
1	SD 0.0 - 1.8	4F	7 -11 (24-36)	2-3 (8-10)	1-2 (4-8)	76-91(250-300)	16 (54)	F
2	SD 1.8 - 7.2	unconstructed						
3	SD 7.2 - 9.2	4F	7-11 (24-36)	3 (10)	1.5 (5)	91-107(300-350)	29 (94)	F
4	SD 9.2 -11.5	unconstructed						
5	SD 11.5- 14.4	unconstructed						
6	SD 14.4 -17.-0	unconstructed						

F = Flat
4F = Freeway
R/W - Right of Way

[1] Directional Travelway widths
Note: Widths are in meters
( ) Widths in feet

The location, direction and number of auxiliary lanes on SR-56 are shown in Table 3.

TABLE 3
EXISTING AUXILIARY LANES

Location	Direction	Number
Carmel Creek Road to Carmel Country Road	Westbound	1
Black Mountain Road to Salmon River Road	Westbound	1
Black Mountain Road to Salmon River Road	Eastbound	1

The remainder of this section discusses a variety of existing transportation conditions. Future transportation improvements are analyzed in the Concept Rationale section later in this report.

Freeway ramp meters are designed to maximize the freeway's full capacity, reduce traffic congestion and accidents, and reduce motorist delays by improving commuter peak period travel times. Metered ramps control the rate at which traffic enters the freeway. In many cases, special lanes are provided on these ramps for carpools, vanpools and buses. Central computer control ramp metering is responsive to real time traffic speeds, volumes and congestion levels, and the metering rate can be adjusted as appropriate. Currently, the westbound SR-56 to southbound I-5 connector is metered..

Park and ride facilities encourage and support the use of commuter or express transit and car/vanpooling for a portion of longer vehicle trips and consequently reduce vehicle

miles of travel (VMT) within the San Diego region. There are five Park and Ride lots near or adjacent to the SR-56 corridor. They are at the following locations.

- I-5 at Carmel Valley Road
- I-15 at Rancho Penasquitos Boulevard
- Carmel Mountain Road at Freeport Road
- Carmel Mountain Road near Paseo Cardiel (Church of the Nazarene)
- Ted Williams Parkway at Sabre Springs Parkway
- Community Road at Twin Peaks Road

There are a wide variety of transit options available within the SR-56 corridor. San Diego County Transit System (SDCTS) Express Route 850 currently provides bus service between Rancho Penasquitos and downtown San Diego. This route utilizes Ted Williams Parkway between Sabre Springs Parkway and Rancho Penasquitos Boulevard, providing peak period service every 30 minutes. SDCTS also provides local bus service between Rancho Penasquitos and Poway utilizing Rancho Penasquitos Boulevard and Poway Road. Routes 844 and 845 provide service every 30 minutes during peak periods and every 45 minutes during midday hours.

There are additional specialized transit services serving the SR-56 corridor. The western portion of SR-56 is in the North San Diego County Transit Development Board (NSDCTDB) Americans with Disabilities Act (ADA) service area. Lifeline Community Services provides demand-responsive paratransit service within this area. The portion of SR-56 east of Black Mountain Road is in Zone II of San Diego County Transit's ADA Service area. Contract paratransit service is provided by WHEELS.

Commuter Rail service between Oceanside and downtown San Diego is provided by Coast Express Rail (Coaster). The nearest commuter rail connection to SR-56 is the Sorrento Valley Coaster Connection located adjacent to I-5 just south of SR-56.

Bicycle facilities within the SR-56 corridor consist of a variety of bicycle paths, lanes and routes adjacent to SR-56 and on parallel streets within the SR-56 corridor. There is a separated bicycle path on the south side of SR-56 between I-5 and Carmel Country Road. There is another separate bicycle path on the south side of SR-56 between Black Mountain Road and I-15. Many of these bikeway facilities are utilized by a growing number of commuter bicyclists. A graphical depiction of these facilities and other bikeways throughout the San Diego region is shown on the SANDAG/Ridelink 1996 San Diego Region Bike Map and in the SANDAG 1997 Regional Transportation Plan (RTP).

ROUTE ANALYSIS

This section further discusses existing conditions and introduces future Post-1998 State Transportation Improvement Program (STIP)/No Build conditions and deficiencies for SR-56. This section also includes a land use/corridor growth and demographic analysis for existing and future conditions in this corridor.

Existing and Future (2020 No Build) Operating Conditions

Table 4 shows existing and future 2020 No Build operating conditions for SR-56. Existing conditions reflect 1997 data. The future conditions are based on the San Diego Association of Governments (SANDAG) Series 8 Regional Population and Employment forecasts for the year 2020 and Caltrans' traffic forecasts and are for planning purposes only. Future No Build conditions also assume the completion of only those projects in the local transportation sales tax program (TransNet) and the 1998 STIP.

TABLE 4
EXISTING AND FUTURE (2020 NO BUILD) OPERATING CONDITIONS

	Segment/ County/P.M.	Location	Year	No.Lanes/ Facility Type	ADT	Peak Hour V/C	Peak Hour Operating LOS
1	SD 0.0 - 1.9	I-5 to Carmel Country Road	1997	4F	13 100	0.22	A
			2020	4F	44 600	0.64	C
2	SD 1.9 - 6.9	Carmel Country Road to Black Mountain	1997	unconstructed			
			2020	4F	44 000	0.61	C
3	SD 6.9 - 9.0	Black Mountain Road to I-15	1997	4F	26 800	0.40	C
			2020	4F	43 000	0.60	C
4	SD 9.0 -11.5	I-15 to Twin Peaks Road	1997	6 lane city street	19 200	(a)	(a)
			2020	6 lane city street	44 500	(a)	(a)
5	SD 11.5- 14.4	Twin Peaks to Future SR-125	1997	4 lane city street	25 700	(a)	(a)
			2020	4 lane city street	39 200	(a)	(a)
6	SD 14.4 -17.-0	Future SR-125 to SR-67	1997	2 lane city street	23 400	(a)	(a)
			2020	2 lane city street	50 000*	(a)	(a)

* The SANDAG Series 8 2020 No Build Traffic Forecast is based on a 1995 network.
1997 ADT on Scripps Poway Parkway between Stowe Drive and SR-67 is 10,800.

(a) Peak Hour V/C Ratio and Peak Hour Operating LOS not established for non-State owned city streets.

Sources: SANDAG Series 8 2020 No Build Traffic Forecast 11/8/96
SANDAG San Diego Region Average Weekday Traffic Volumes, 1993-1997 (May, 1998)

Accident data for the three year period from April 1, 1995 to April 1, 1998 was analyzed for SR-56. Criteria used for determining an accident concern are based on whether actual total accident rates exceeded expected total accident rates by one and one half times. Based on this criteria, there are no accident concerns on SR-56.

Corridor Growth and Demographics

The SANDAG Series 8 Regional Population and Employment Forecast anticipates a population growth change in the San Diego region from 2,500,000 people in 1990 to 3,760,000 people in 2015. This represents a 51 percent increase in population. Series 8 also projects a 45 percent increase in housing and 30 percent growth of the total labor force. This growth will require complementary land use and transportation improvements.

Table 5 shows current and projected population, housing and employment growth for selected jurisdictions within San Diego County that are traversed by SR-56.

Table 6 shows population, housing and employment growth for the smaller subregional areas.

TABLE 5
POPULATION, HOUSING AND EMPLOYMENT GROWTH
SELECTED SAN DIEGO COUNTY JURISDICTIONS

Location	Year	Total Population	% Change from Base Year	Total Housing Units	% Change from Base Year	Total Employment	% Change from Base Year
San Diego	1990	1 110 549	NA	431 722	NA	668 512	NA
	2000	1 314 248	18.3	473 187	9.6	687 978	2.9
	2005	1 409 990	27.0	513 371	18.9	742 947	11.1
	2015	1 573 656	41.7	591 437	37.0	822 468	23.0
Poway	1990	43 516	NA	14 386	NA	11 704	NA
	2000	49 519	13.8	15 334	6.6	13 647	16.6
	2005	50 922	17.0	15 960	10.9	17 913	53.0
	2015	54 180	24.5	17 494	21.6	23 673	102.3
Total:	**1990**	**1 154 065**	**NA**	**446 108**	**NA**	**680 216**	**NA**
	2000	**1 363 767**	**18.2**	**488 521**	**9.5**	**701 625**	**3.1**
	2005	**1 460 912**	**26.6**	**529 331**	**18.7**	**760 860**	**11.9**
	2015	**1 627 836**	**41.1**	**608 931**	**36.5**	**846 141**	**24.4**

Source: SANDAG Series 8 Regional Growth Forecast, May 1995.

TABLE 6
POPULATION, HOUSING AND EMPLOYMENT GROWTH
SELECTED SUBREGIONAL AREAS (SRAS)

Location	Year	Total Population	% Change from Base Year	Total Housing Units	% Change from Base Year	Total Employment	% Change from Base Year
Del Mar-Mira Mesa SRA	1990	97 157	NA	34 945	NA	67 384	NA
	2000	133 417	19.4	45 022	12.3	70 664	6.3
	2005	158 738	24.1	54 686	21.4	80 256	30.3
	2015	198 185	25.1	71 248	23.0	92 115	42.9
North San Diego SRA	1990	67 763	NA	28 493	NA	26 243	NA
	2000	88 505	29.9	33 950	21.9	29 256	1.0
	2005	98 062	45.4	37 901	41.4	35 100	42.2
	2015	113 535	47.0	44 905	43.4	43 597	56.6
Poway SRA	1990	60 732	NA	21 807	NA	21 103	NA
	2000	76 702	46.0	25 666	33.0	23 619	3.6
	2005	83 468	91.2	28 311	84.8	29 216	48.9
	2015	95 117	96.1	33 290	89.6	36 109	76.8
Total:	**1990**	**225 652**	**NA**	**85 245**	**NA**	**114 730**	**NA**
	2000	**298 624**	**32.3**	**104 638**	**22.7**	**123 539**	**7.6**
	2005	**340 268**	**50.8**	**120 898**	**41.8**	**144 572**	**26.0**
	2015	**406 837**	**80.3**	**149 443**	**75.3**	**171 821**	**49.8**

Source: SANDAG Series 8 Regional Growth Forecast, May 1995.

The City of San Diego's Progress Guide and General Plan is the principal planning document of the city which establishes a framework for the development of more specific community plans. In 1992, the City of San Diego adopted the North City Future Urbanizing Area (NCFUA) Framework Plan, which is an amendment to the Progress Guide and General Plan. The Framework Plan identifies five planning subareas in the NCFUA, a generalized land use plan for all subareas, and major infrastructure and public service facilities required to serve these areas. The Transportation Element of the Framework Plan identifies SR-56 as a "six lane freeway, with emphasis on transit/High occupancy vehicles."

After the passage of a ballot measure in November, 1998, Subarea III of the NCFUA underwent a phase shift from Future Urbanizing Area (FUA) to Planned Urbanizing Area (PUA). FUAs are vacant lands or lands zoned for agriculture which, according to the City of San Diego General Plan, are to be held as "urban reserves" and released for development as "planned communities are built out or as opportunities to implement the balanced housing or land use goals of the City arise".

Based on the phase shift, the portion of the SR-56 corridor from I-5 to I-15 now consists of three community planning areas: Carmel Valley, Pacific Highlands Ranch, and Rancho Penasquitos.

Another methodology to ensure compatibility between land use and the statewide transportation system is the Caltrans Intergovernmental Review process. Potential future development projects are analyzed to determine what impacts they may have on State transportation facilities. Impacts can include level of service changes, right of way protection issues, operations and/or maintenance issues, or growth inducing cumulative impacts. Development Review also analyzes proposed developments to ensure consistency with regional and State transportation planning documents.

Potential major development projects in the vicinity of the SR-56 corridor that may contribute to traffic congestion on area surface streets and state transportation facilities are shown in Table 7. It should also be noted that the table includes projects for which an Environmental Impact Report, a Specific Plan or a Master Plan has been or will be prepared. Because of uncertainties associated with the existing and future socioeconomic and political climates, the scale of development may be subject to change, and it is possible that some of the listed projects may not be developed.

Proposed major developments that will generate at least 5,000 daily trips are shown in Table 7. The "Trips Generated Daily" column is a rough estimate only. Smaller projects that have the potential to create cumulative impacts to SR-56 and area surface streets are not shown.

TABLE 7
TRIP INDUCING MAJOR DEVELOPMENT PROJECTS

Segment	Proposed Development	Dwelling Units	Square meters (footage)	Acreage in hectares (acres)	Trips Generated Daily
1	North City West Neighborhoods 4,5,6,810	6 240		751 (1 855)	58 000
1	Sorrento Hills Community Plan	526	288 000 (3.1 million)	242 (597)	38,500
2	Twin Peaks Plaza Retail Center	0	20 903 (225 000)	8.5(21)	25 000
2	Carmel Village Plaza	0		20(50)	27 000
2	Pacific Highlands Ranch	5 000	27 870 (300 000)	1 073 (2 652)	80 700
2/3	Torrey Highlands	2 600	13 842 (149 000)	459 (1 134)	63 700
2/3	Black Mountain Ranch	4 900	37 160 (400 000)	573 (1 415)	78 000
2/3	4S Ranch	4 715	51 095 (550 000)	1 170 (2 891)	50 700

TRANSPORTATION CONCEPT (2020)

The 2020 Transportation Concept includes State highway, transit service, system management and travel reduction, goods movement, International border, aviation and nonmotorized components. The State highway component is listed in Table 8, while the other components are discussed in the Concept Rationale section. These components are examined in segments for traffic analysis and other purposes. The segmentation shown is for planning purposes only and is subject to change pending further studies or project related activities. The State highway component is comprised of the facility type and the number of lanes for 2020, the ADT for 2020, the peak hour Volume to Capacity (V/C) Ratio for 2020, the peak hour Operating Level of Service (LOS) for 2020, and the Transportation Concept LOS for 2020. The 2020 traffic projections for SR-56 are based on the San Diego Association of Governments (SANDAG) Series 8 regional population and employment forecasts and assume completion of the future regional transportation system. The 2020 traffic projections are subject to change based on periodic traffic forecasting model adjustments and ongoing supplemental transportation studies.

The 2020 peak hour Operating LOS includes all proposed transit service and State highway improvements. The 2020 Transportation Concept LOS is based on the SANDAG Congestion Management Program (CMP). The CMP minimum standard of LOS 'E' is the 2020 Transportation Concept LOS for SR-56.

No state highway improvements are proposed for segments 4 through 6.

TABLE 8
2020 TRANSPORTATION CONCEPT

Segment/ County Post Mile	Location	No. Lanes/ Facility Type	ADT*	Peak Hour V/C Ratio	Peak Hour Operating LOS	Concept LOS
1 SD 0.0 - 1.8	I-5 to Carmel Country Road	6F + 2HOV/TA**	119 500	0.76	C	E
2 SD 1.8 - 7.2	Carmel Country Road to Black Mountain Roac	6F + 2HOV/TA + 2 ICs	113 200	0.72	C	E
3 SD 7.2 - 9.2	Black Mountain Road to I-15	6F + 2HOV/TA + IC	90 800	0.58	B	E
4 SD 9.2 -11.5	I-15 to Twin Peaks Road	6 lane city street	47 800	(a)	(a)	(a)
5 SD 11.5 – 14.4	Twin Peaks Road to Future SR-125	4 lane city street	39 600	(a)	(a)	(a)
6 SD 14.4 - 17.0	Future SR-125 to SR-67	2 lane city street	29 000	(a)	(a)	(a)

ADT = Average Daily Traffic
V/C = Demand to Capacity
LOS = Level of Service
TA = Transit Alternative
6F = Six lane freeway
4E = Four lane expressway
4C = Two lane conventional highway

- ADTS for Segments 1,2 and 3 are based on the State Route 56 Traffic Corridor Study prepared as part of the SR-56 EIR by JHK and Associates, December, 1996. ADTS for the remaining city street segments that are owned and operated by the City of San Diego and the City of Poway are based on SANDAG Series 8 2020 (RTP Preferred) Traffic Forecasting Model Plots, July, 1996.
- ** Median width in this segment may not be sufficient to provide a potential at-grade transit corridor. Future studies are needed to determine the most appropriate type of transit and how it could be constructed in this segment.

(a) Peak Hour V/C Ratio, Peak Hour Operating LOS, And Concept LOS not established for non-State owned city streets.

CONCEPT RATIONALE

An intermodal approach is necessary in order to provide for the projected increased vehicle trips and person-trips in the SR-56 corridor. This approach utilizes a wide variety of transportation improvement components to help achieve the 2020 Transportation Concept LOS.

Highway Component

General Discussion (I-5 to I-15)
The feasibility of constructing the nine mile segment of SR-56 from I-5 to I-15 was addressed in the Caltrans Initial Project Report (IPR) approved May 5, 1988. In the IPR the project was divided into three sections; 1) the western section from I-5 to Carmel Country Road 2) the middle section from Carmel Country Road to Black Mountain Road(mostly within the City of San Diego's North City Future Urbanizing area-NCFUA) and 3) the eastern section from Black Mountain Road to I-15.

General Discussion (I-15 to SR-67)
No state highway improvements are proposed between I-15 and SR-67.

Segment 1 (I-5 to Carmel Country Road).

A multi-stage project is currently underway to widen I-5 between Genesee Avenue and Del Mar Heights Road. This project will increase capacity in the vicinity of the I-5/I-805 junction and will provide for construction of portions of the I-5/SR-56 interchange. Further detailed information can be found in the Caltrans Project Report (November, 9, 1988) and the Final Environmental Impact Report (March 27, 1991). Another project will provide additional improvements at the I-5/SR-56 interchange.

The Caltrans Project Report for the portion of SR-56 from I-5 to Carmel Country Road was approved September 26, 1989. Construction began in the fall of 1992 and was completed in March,1995. The Transportation Concept is to upgrade this segment from a 4 lane freeway to a six lane freeway with two HOV lanes and/or a possible transit corridor. There may not be sufficient median in this segment to provide a potential transit corridor at-grade in the median. Future studies will be needed to determine the most appropriate type of transit and how the facility could be constructed in this segment.

Segment 2 (Carmel Country Road to Black Mountain Road)
This segment is currently unconstructed. In April, 1993, Caltrans and the City of San Diego began route location studies for this portion of SR-56. A Caltrans Project Work Program (PWP) was developed in February, 1994. The City of San Diego initiated environmental studies in March, 1994. The consultant-prepared State Route 56 Final Environmental Constraints Report was completed in September, 1994. Eight alignment alternatives were evaluated, and six were eliminated. In June, 1995, Caltrans developed an Alternative Analysis Report which evaluated the two remaining alternatives- the Central Alternative and the Northern Alternative. A Final Environmental Impact Report was approved June 30, 1998. A Preferred Alternative was selected by the San Diego City Council in June, 1998. The preferred alternative is a combination of the Modified Northern F Alternative on the westerly end and the Northern Alternative on the easterly end of this segment. The SR-56 Pre-Final Project Report prepared by Boyle Engineering (September, 1998) extensively discusses the preferred alternative. The Transportation Concept for this segment is to construct a four lane freeway. This four lane freeway will then be upgraded to a six lane freeway with median width sufficient to accommodate two High Occupancy Vehicle (HOV) lanes and a possible transit corridor. Interchanges will be constructed at Camino Santa Fe and Camino Ruiz. Completion of the half diamond interchange at Black Mountain Road is also included.

Segment 3 (Black Mountain Road to I-15)
The Caltrans Project Report for this segment of SR-56 was approved on March 12, 1990. Construction of the project began in August, 1991, and was completed in July, 1993. The Transportation Concept calls for upgrading the four lane freeway to a six lane freeway. There is sufficient median width in this segment to accommodate two HOV lanes and a possible transit corridor. In addition, the SR-56/I-15 interchange should be improved.

Transit Component

Existing transit service in the vicinity of the SR-56 corridor was discussed in a previous section of this report. The transit component of the 2020 Transportation Concept for SR-56 includes a variety of transit modes such as light rail, express bus and local bus service.

As indicated in the Highway Component, there is or will be sufficient median width on most of SR-56 between I-5 and I-15 for a possible transit corridor. The 1997 SANDAG Regional Transportation Plan (RTP) shows this portion of SR-56 as a Potential Regional Transit Corridor. The most likely future transit mode in this corridor is expected to be the provision of express bus service. Local bus service is also expected to expand in the SR-56 corridor and on parallel arterial city streets. However, the RTP also shows the North San Diego (SR-56) Potential Guideway Corridor in the Transit System Capital Cost Preferred Plan. Further studies will be needed to determine the feasibility of light rail transit service in the SR-56 corridor.

System Management and Travel Reduction Component

Another component of the concept is greater utilization and expansion of the existing and proposed arterial street network in the corridor. These arterial improvements are expected to substantially increase mobility and reduce peak period demands on the freeway. They can provide a route for short intraregional trips where existing arterials are inadequate or not present and act as an alternative route for some regional trips. Capacity of existing arterials within the corridor is affected by physical inadequacies, access conflicts, numerous traffic signals, and general traffic congestion. Corridor capacity can be increased by realignment and/or widening, correcting physical inadequacies, minimizing side friction, and improving the traffic flows of arterials within the corridor. Improvements towards these ends include preferential signal treatment, limitation and separation of left-turn movements, limited driveway and other access controls, and surface street HOV lanes for ridesharing and transit.

SANDAG's *Mid-County Transportation Plan* (March,1995) is a comprehensive analysis of planned and alternative arterial circulation networks for the area bounded by Penasquitos Canyon on the south, Ramona on the east, the Pacific Ocean on the west, and Palomar Airport Road/San Marcos boulevard on the north. The SR-56 corridor falls within this study area. The Plan discusses 27 key issues and recommendations to help solve local congestion problems within the Mid-County area. The Plan emphasizes the need for a strong parallel arterial network. Important arterials identified in the Plan include Black Mountain Road, Camino Del Mar, Camino Ruiz, Pomerado Road, El Camino Real, Pacific Coast Highway, Del Mar Heights Road and Sorrento Valley Road.

SANDAG has been coordinating the development of the *1995 Regional Arterial System (RAS) Project Priority List* which includes unfunded/underfunded candidate projects that could compete for future discretionary transportation funding allocations. An additional study related to arterial street improvements is the SANDAG *Traffic Signal Optimization*

Program (April, 1994). This program was developed to enhance inter-jurisdictional coordination, to provide detailed guidelines for the implementation of a county-wide traffic management system, and to identify a conceptual plan for future implementation of Intelligent Transportation System (ITS) technologies. The proposed signal system improvements are expected to significantly reduce vehicle emissions and traffic congestion.

Another system management component is the development of the *Strategic Traffic Operation Plan for Southern California* (Preliminary Draft, January, 1997). This plan is being developed jointly by Caltrans' District 7 (Los Angeles), District 8 (San Bernardino), District 11 (San Diego) and District 12 (Santa Ana). The District 11 traffic operation actions focus on three key strategies: 1) completion of the Integrated Traffic Management System (ITMS); 2) implementation of the reversible Managed Lanes Concept on I-5 and I-15, and; 3) the addition of auxiliary lanes at 27 locations throughout the District.

TSM improvements are expected to optimize traffic flow on the existing transportation systems within the SR-56 corridor. Ramp meters will be installed at appropriate locations in the SR-56 corridor in the future. Preferential carpool lanes will also be provided on appropriate ramps where feasible to encourage high occupancy vehicle use.

An additional TSM measure in the 2020 Transportation Concept includes the provision of additional Park and Ride facilities in appropriate locations within the SR-56 corridor. The consultant prepared *San Diego Regional Park and Ride Study* (March, 1994) analyzed and evaluated several planned and potential Park and Ride lot locations throughout the San Diego region, including the SR-56 corridor. Potential future Park and Ride lot locations in or near the SR-56 corridor include:

- Del Mar Heights Road at El Camino Real
- Valley Centre Drive at Carmel Creek Road
- Carmel Mountain Road at Rancho Carmel Drive
- Rancho Carmel Drive at Provencial Place
- I-5 at Carmel Valley Road (existing lot expansion)

Goods Movement Component

Under the Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991, additional emphasis was placed on the movement of goods in an integrated transportation network. It is essential to identify critical elements within major goods movement corridors in order to develop effective strategies for managing, maintaining and improving transportation system connectivity. Goods movement planning incorporates analysis of impacts on noise, air quality, land use, congestion and safety. Goods movement issues can have a significant economic impact on our regional economy. The movement of goods in San Diego involves the systems of rail, ports and shipping, trucking, and air cargo.

On June 9, 1998, the President signed into law PL 105-178, the Transportation Equity Act for the 21st Century (TEA-21) authorizing highway, highway safety, transit and other surface transportation programs for the next 6 years. TEA-21 builds on the initiatives established in ISTEA. The new Act adds some new programs that address traffic safety, economic competitiveness and international trade.

Once the portion of SR-56 between I-5 and I-15 is completed, it is expected that commercial vehicular traffic will utilize this route for the intraregional and interregional movement of goods.

International Border Component

The ISTEA requires studying the advisability of establishing a discretionary international border crossing program and the development of a multimodal assessment of existing and emerging international trade corridors within Canada, Mexico and the United States. Because of District 11's geographic location adjacent to the State of Baja California, Mexico, and the passage of the North American Free Trade Agreement (NAFTA), it is expected that transportation and trade issues related to the California/Mexico International border will increase in importance in the future.

Aviation Component

There are no military, public or private aviation facilities within the SR-56 corridor.

Non-Motorized Component

The Nonmotorized component includes continued utilization of the existing Regional Bikeway System, the Bus Bicycle Rack program, and the Bicycle Locker program at Park and Ride lots and transit centers.

Future bicycle facilities in the SR-56 corridor include the provision of a separate bicycle path which will be constructed on the south side of SR-56 between Carmel Country Road and Black Mountain Road. This will complete the gap between the two existing bicycle paths at the west end near I-5 and east end of SR-56 near I-15.

AIR QUALITY

Air Pollution Control Districts (APCDs) are responsible for developing air quality plans directed at meeting the National Ambient Air Quality Standards (NAAQS) set by the U.S. Environmental Protection Agency (EPA). The NAAQS identify specific pollutants and acceptable pollutant threshold levels for each region. Areas where a pollutant problem exists are classified as "non-attainment" areas. Deadlines for attainment of the NAAQS have been specified in the federal Clean Air Act (CAA).

In San Diego County, SR-56 is located in the San Diego Air Basin. This air basin was originally designated as a nonattainment area for ozone (O_3) and classified as "severe" under both the State and federal Clean Air Acts. In July, 1993 the federal government lowered San Diego's classification to "serious"; however, the State classification remained severe until recently when it was also lowered to "serious" by the California Air Resources Board. According to the 1999 Clean Air Act Amendments, the San Diego region's deadline for ozone is 1999.

California submitted a request to the Environmental Protection Agency (EPA) for redesignation of San Diego from non-attainment to attainment for carbon monoxide (CO). After review by the EPA, San Diego is now designated as an attainment area for carbon monoxide as of June 1, 1998.

The 1988 California Clean Air Act (CCAA) requires the development of a new air quality plan from air districts that did not attain the State's standards in 1987. The San Diego County Air Pollution Control District (APCD) adopted the Regional Air Quality Strategy (RAQS) in June 1992. The plan incorporates strategies directed at reducing pollutants and increasing vehicle occupancy in an effort for the region to achieve the State's standards. The RAQS will be implemented by the San Diego Air Pollution Control District, Caltrans, SANDAG, the transit operators, and the cities of this region.

As part of the RAQS, SANDAG has developed transportation related strategies towards attainment of the plans goals. These strategies are composed of Transportation Control Measures (TCM) programs planned to achieve the following requirements of the CCAA: a one and four-tenths minimum average vehicle occupancy during weekday commute hours by 1999, no net increase in emissions relative to population growth after 1997, and contribute to the required reduction in District-wide emissions of five percent per year, averaged every consecutive three-year period. The TCM program is comprised of the following measures: (1.) Transportation Demand Management (TDM); (2.) Transportation Capacity Expansion; (3.) Traffic Systems Management; and (4.) Indirect Source Control (ISC).

INTELLIGENT TRANSPORTATION SYSTEM (ITS)

The Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) calls for the creation of an economically efficient and environmentally sound transportation system that will move people and goods in an energy efficient manner. This can no longer be done simply by adding to the existing highway system. The Intelligent Transportation System (ITS) offers the potential to improve safety and efficiency in nearly every function of our complex multimodal transportation system by applying a broad range of diverse technologies. The U.S. Department of Transportation has defined an Intelligent Transportation Infrastructure (ITI) Program consisting of traffic detection and monitoring, communications and control systems required to support a variety of ITS products and services.

New Technology

ITS Programs offer the potential to deploy and operate traffic signal control systems, freeway management systems, transit management systems, incident management systems, electronic fare payment systems, electronic collection systems and multimodal traveler information systems.

Under the ISTEA ITS program, four transportation corridors in the nation have been selected to showcase coordinated intelligent transportation system elements. One of the priority corridors selected is the Southern California Intelligent Transportation Systems (ITS) Priority Corridor. This corridor lies within the major urbanized and adjacent non-urbanized areas of Ventura, Los Angeles, San Bernardino, Riverside and San Diego Counties and all of Orange County. ITS activities in the San Diego region include the innovative use of the existing solar powered freeway call box infrastructure, the operation of the multifunctional/multimodal Transportation Management Center (TMC), the provision of automated traffic operation information to fleet operators in the goods movement, transit, and hazardous material industries, and the development of an ITS International Border Crossing Operations Strategic Plan. Additional ITS technologies that could be utilized in the San Diego region include vehicle navigation systems, computerized roadway sensors, changeable message signs, and television roadway monitoring devices.

Another related new technology is the future provision of an automated highway system (AHS). The ISTEA of 1991 mandated development of an automated highway and a vehicle prototype from which future fully automated intelligent vehicle highway systems can be developed. Caltrans is a core member of The National Automated Highway System Consortium (NAHSC), which was formed to specify, develop and demonstrate a prototype of a working AHS in the United States by 2001. AHS technology will consist of at least two major subsystems, including vehicles and infrastructure. AHS will showcase features such as adaptive cruise control, object detection, collision warning and avoidance systems, longitudinal and lateral vehicle control, maneuver coordination

and navigation systems. The specifications will provide for evolutionary deployment that can be tailored to meet regional and local transportation needs. The Consortium will seek opportunities for early introduction of vehicle and highway automation technologies to achieve early benefits for all surface transportation users. In the San Diego region, an AHS Proof-of-Technical-Feasibility Demonstration was conducted in Summer, 1997 on the existing I-15 reversible HOV lanes.

Congestion Pricing Studies

An additional strategy that should be studied in the future is congestion pricing, which is a direct market incentive to ensure that transportation system users pay the "real" costs of the transportation benefits they receive. One purpose of congestion pricing is to reduce travel demand. With the advent of technological advances such as electronic toll collection and traffic management (ETTM) and automatic vehicle identification (AVI) systems, congestion pricing could be developed for a wide variety of transportation facilities. The ISTEA of 1991 provided funding of up to $25 million annually over the 1992-97 period to support Federal participation in congestion pricing pilot programs. SANDAG applied for and was awarded a federal technical assistance grant from the Federal Highway Administration (FHWA) for a two-phased pilot program which allows single occupant vehicle drivers to “Buy-in” to the existing I-15 reversible HOV lanes. The intent of the this pilot program is to test market-based roadway pricing concepts to better manage traffic congestion and air quality in the region while raising revenues for the expansion of transit services and HOV facility improvements.

COMPARISON OF CONCEPTS

The purpose of this section is to document alternative Transportation Concepts that were considered. The Concept from the July, 1990 Route Concept Report (RCR) for the year 2010 is compared with this 1998 TCR for the year 2020.

In 1984, the original Concepts were set based on the SANDAG Series 6 Population and Travel Forecasts for the year 2005. The 1990 and 1991 Route Concepts were based on the SANDAG Series 7 Population and Travel Forecasts for the year 2010. The 1999 Transportation Concepts are based on the SR-56 Traffic Corridor Study prepared by JHK and Associates and the SANDAG Series 8 Population and Travel Forecasts for the year 2020. Table 9 is comprised of a segment by segment comparison between the 1990 Route Concept Report for SR-56 and this current updated Transportation Concept Report.

TABLE 9
COMPARISON OF CONCEPTS

1991 Route Concept for 2010 (Series 7 2010 Forecast)		1999 Transportation Concept for 2020 (Series 8 2020 Forecast)	
Location	**No. Lanes/ Facility Type/ Concept LOS**	**Location**	**No. Lanes/ Facility Type/ Concept LOS**
I-5 to Carmel Country Road	6F/D	I-5 to Carmel Country Road	6F + 2HOV/TA/E
Carmel Country Road to Black Mountain Road	6F/D	Carmel Country Road to Black Mountain Road	6F + 2HOV/TA + 2 ICs/E
Black Mountain Road to I-15	6F/D	Black Mountain Road to I-15	6F + 2HOV/TA +IC/E
I-15 to Twin Peaks Road	6E/E	I-15 to Twin Peaks Road	6 lane city street*
North City Parkway to Community	6C/F	Twin Peaks Road to future SR-125	4 lane city street*
Community to Espola Road	4C/F		
Twin Peaks Road to SR-125	4C/F		
SR-125 to SR-67	4C/D	Future SR-125 to SR-67	2 lane city street*

HOV = High Occupancy Vehicle
IC = Interchange
LOS = Level of Service
TA = Transit Alternative
* Concept LOS not established for non-State owned and operated city streets.

2020 TRANSPORTATION CONCEPT FACILITY IMPROVEMENTS

Table 10 shows improvements to SR-56 that are part of the 2020 Transportation Concept. This table does not include projects currently under construction. The peak hour V/C ratio and peak hour Operating LOS listed assume completion of the proposed highway improvements.

TABLE 10
2020 TRANSPORTATION CONCEPT FACILITY IMPROVEMENTS

Segment/ County/ Post Mile	Location	Improvement Description	Peak Hour V/C Ratio	Peak Hour Operating LOS	Concept LOS
1 SD 0.0	SR-56/I-5	Improve Interchange			
1 SD 0.0 - 1.8	I-5 to Carmel Country Road	Upgrade 4F to 6F + 2HOV/TA*	0.76	C	E
2 SD 1.8 - 7.2	Carmel Country Road to Black Mountain Road	Construct 4F, then upgrade to 6F + 2HOV/TA	0.72	C	E
2	Camino Santa Fe	Construct interchange			
2	Camino Ruiz	Construct interchange			
3 SD 7.2 - 9.2	Black Mountain Road to I-15	Upgrade from 4F to 6F + 2HOV/TA	0.58	B	E
3 SD 7.2	Black Mountain Road	Completion of interchange			
4 SD 9.2	SR-56/I-15	Improve Interchange			

LOS = Level of Service
TA = Transit Alternative
V/C = Volume to Capacity Ratio
Concept LOS is based on the SANDAG CMP minimum LOS standard and Caltrans system planning guidelines.

* Median width in this segment may not be sufficient to provide a potential at-grade transit corridor. Future studies are needed to determine the most appropriate type of transit and how it could be constructed in this segment.

POST-2020 ULTIMATE TRANSPORTATION CORRIDOR

The post-2020 Ultimate Transportation Corridor (UTC) describes the long term (beyond the 20 year planning period) right of way requirements for a particular segment. The long term needs are determined by Advanced Transportation System Development (ATSD) activities which include investigation and analysis of Community Plans, General Plans, Transportation Plans, Land Use Plans, Environmental Documents, and other planning documents. The intent is to take advantage of or develop opportunities for long term right of way acquisition and to work with local and regional agencies to implement corridor preservation measures.

The UTC proposes the number of lanes, the facility type, and the potential right of way width in feet. This width can be variable depending upon the dimensions of cross-sectional elements and specific circumstances which may require narrow widths. Right of way width includes the roadbed, shoulder, clear recovery zone, and clearance from the right of way line to the catch point of the cut or fill slope. Additional right of way may be required for structures, slope modifications and drainage facilities.

The UTC number of lanes and facility type for SR-56 is the same as the 2020 Transportation Concept facility, however, future studies are needed to determine the status of the unconstructed, adopted portion of SR-56 from I-15 to SR-67.

LIST OF SYSTEM PLANNING ACRONYMS

ADA	Americans with Disabilities Act
ADT	Average Weekday Traffic
AHS	Automated Highway System
APCD	Air Pollution Control District
ATSD	Advanced Transportation System Development
AVI	Automated Vehicle Identification
BNSF	Burlington Northern Santa Fe Railroad
CCAA	California Clean Air Act
CHP	California Highway Patrol
CLUP	Comprehensive Land Use Plan
CMP	Congestion Management Plan
D/C	Demand to Capacity Ratio
DSMP	District System Management Plan
ETTM	Electronic Toll Collection and Traffic Management
F & E	Freeway and Expressway System
FHWA	Federal Highway Administration
FSP	Freeway Service Patrol
GATT	General Agreement on Tariffs and Trade
GPA	General Plan Amendment
HOV	High Occupancy Vehicle
IBTC	International Border Trade Corridor
IRRS	Interregional Road System
ISC	Indirect Source Control
ISTEA	Intermodal Surface Transportation Efficiency Act
ITI	Intelligent Transportation Infrastructure
ITIP	Interregional Transportation Improvement Program
ITMS	Integrated Traffic Management System
ITS	Intelligent Transportation Systems
IVAG	Imperial Valley Association of Governments
LOS	Level of Service
LROP	Long Range Operations Plan
MIS	Major Investment Study
MSL	Maintenance Service Level
NAFTA	North American Free Trade Agreement
NAHSC	National Automated Highway System Consortium
NCTD	North County Transit District
NHS	National Highway System
NSDCTDB	North San Diego County Transit Development Board
PHV	Peak Hour Volume
P.M.	Post Mile
PR	Project Report
PSR	Project Study Report

R/W	Right of Way
RAQS	Regional Air Quality Strategy
RAS	Regional Arterial System
RCR	Route Concept Report
RTIP	Regional Transportation Improvement Program
RTP	Regional Transportation Plan
SANDAG	San Diego Association of Governments
SD&IV	San Diego and Imperial Valley Railroad
SPA	Specific Plan Area
STAA	Surface Transportation Assistance Act
STIP	State Transportation Improvement Program
TASAS	Traffic Accident Surveillance and Analysis System
TCM	Transportation Control Measures
TCR	Transportation Concept Report
TDM	Transportation Demand Management
TMA	Transportation Management Association
TMC	Transportation Management Center
TSDP	Transportation System Development Plan
TSM	Transportation Systems Management
UC	Undercrossing
UTC	Ultimate Transportation Corridor
VMT	Vehicle kilometers (Miles) of Travel

LEVEL OF SERVICE (LOS) DEFINITIONS

LOS is defined as a qualitative measure describing operational conditions within a traffic stream, and their perception by motorists and/or passengers. An LOS definition generally describes these conditions in terms of such factors as speed, travel time, freedom to maneuver, comfort and convenience, and safety. LOS definitions can generally be categorized as follows:

LOS	D/C	Congestion/Delay	Traffic Description
		(Used for all conventional highways)	
"B"	<0.45	None	Free to stable flow, light to moderate volumes.
"C"	0.46 - 0.65	None to Minimal	Stable flow, moderate volumes, freedom to maneuver noticeably restricted.
"D"	0.66 - 0.85	Minimal to Substantial	Approaches unstable flow, heavy volumes, very limited freedom to maneuver.
"E"	0.86 - 1.00	Significant	Extremely unstable flow, maneuverability and psychological comfort extremely poor.
"F"	>1.00	Considerable	Forced or breakdown flow. Delay measured in average travel speed (MPH). Signalized segments experience delays >60.0 seconds per vehicle.
		(Used for two and four lane freeways and expressways)	
"A"	<.34	None	Free flow.
"B"	0.35-0.52	None	Free to stable flow, light to moderate volumes.
"C"	0.53-0.69	None to minimal	Stable flow, moderate volumes, freedom to maneuver noticeably restricted.
"D"	0.70-0.92	Minimal to substantial	Approaches unstable flow,

			heavy volumes, very limited freedom to maneuver.
"E"	0.93-1.00	Significant	Extremely unstable flow, maneuverability and psychological comfort extremely poor.

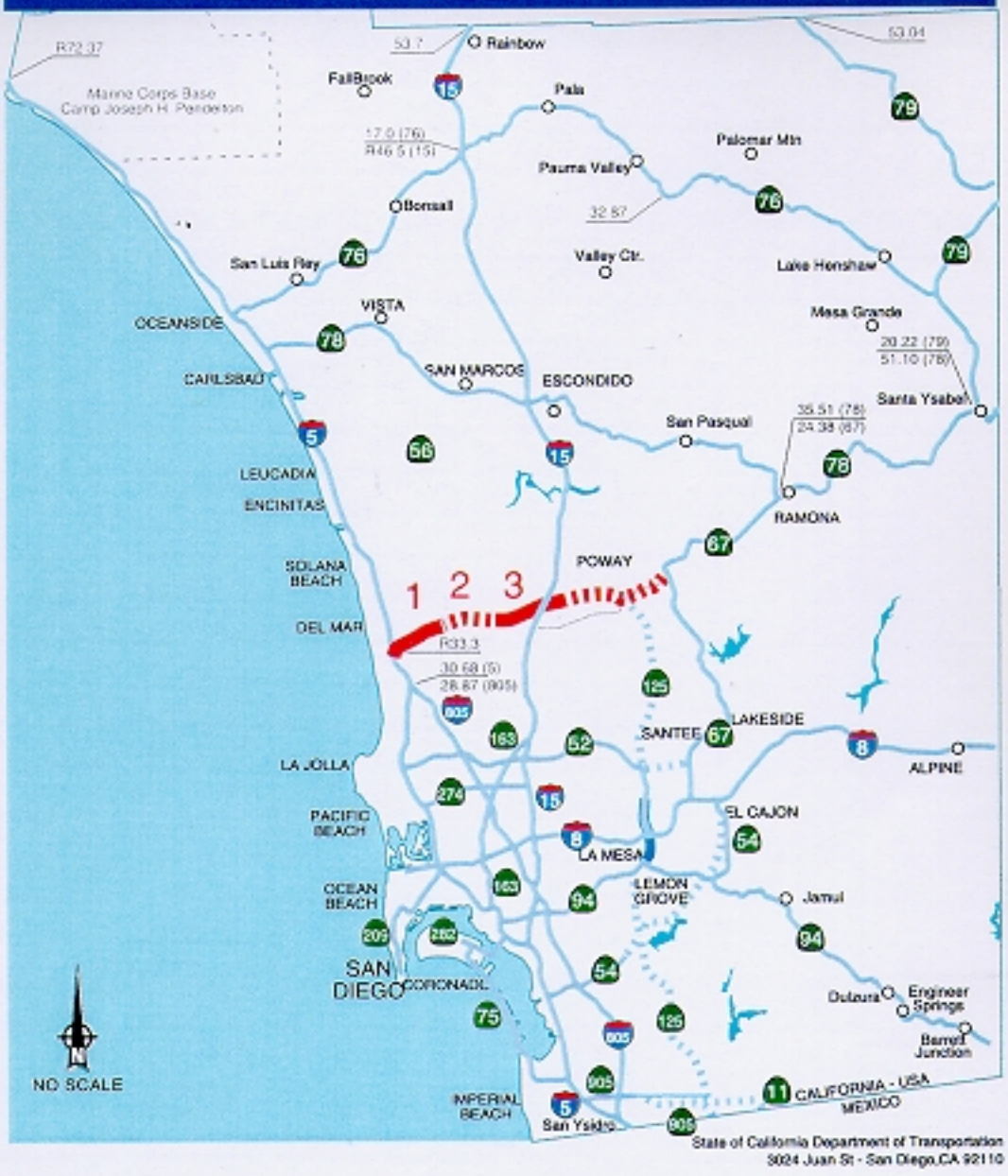
LOS	**D/C**	**Congestion/Delay**	**Traffic Description**
		(Used for six lane freeways and expressways)	
"A"	< .39	None	Free flow
"B"	0.40-0.59	None	Free to stable flow, light to moderate volumes
"C"	0.60-0.74	None to Minimal	Stable flow, moderate volumes freedom to maneuver noticeably restricted
"D"	0.75-0.92	Minimal to Substantial	Approaches unstable flow, heavy volumes, very limited freedom to maneuver
"E"	0.93-1.00	Significant	Extremely unstable flow, maneuverability and psychological comfort extremely poor
		(Used for freeways with eight or more lanes)	
"A"	< .42	None	Free flow
"B"	0.43-0.62	None	Free to stable flow, light to moderate volumes
"C"	0.63-0.79	None to Minimal	Stable flow, moderate volumes, freedom to maneuver noticeably restricted
"D"	0.80-0.92	Minimal to Substantial	Approaches unstable flow, heavy volumes, very limited freedom to maneuver

"E"	0.93-1.00	Significant	Extremely unstable flow, maneuverability and psychological comfort extremely poor

LOS	D/C	Congestion/Delay	Traffic Description
		(Used for freeways and expressways)	
"F0"	1.01-1.25	Considerable 0-1 hour delay	Forced flow, heavy congestion, long queues form behind breakdown points, stop and go.
"F1"	1.26-1.35	Severe 1-2 hour delay	Very heavy congestion very long queues.
"F2"	1.36-1.45	Very severe 2-3 hour delay	Extremely heavy congestion, longer queues, more numerous breakdown points, longer stop periods.
"F3"	>1.46	Extremely severe 3+ hours of delay	Gridlock

SR-56 TRANSPORTATION CONCEPT IMPROVEMENTS

DISTRICT 11 - System Planning
October 1999



State of California Department of Transportation
3024 Juan St - San Diego,CA 92110

Segment/ County/ Post Mile	Location	Improvement Description	Peak Hour V/C Ratio	Peak Hour Operating LOS	Conce LOS
1 SD 0.0	SR-56/I-5	Improve Interchange			
1 SD 0.0 - 1.8	I-5 to Carmel Country Road Upgrade	4F to 6F + 2HOV/TA	0.76	C	E
2 SD 1.8 - 7.2	Carmel Country Road to Black Mountain Road	Construct 4F, then upgrade to 6F + 2HOV/TA	0.72	C	E
2	Camino Santa Fe	Construct interchange			
2	Camino Ruiz	Construct interchange			
3 SD 7.2 - 9.2	Black Mountain Road to I-15	Upgrade from 4F to 6F + 2HOV/TA	0.58	B	E
3 SD 7.2	Black Mountain Road	Completion of interchange			
3 SD 9.2	SR-56/I-15	Improve Interchange			

I approve this Transportation Concept Report as the guide for development of State Route 56 over the next 20 years.

Submitted By:

Kimberly Weinstein

KIMBERLY WEINSTEIN, Chief
System Planning Branch

10/8/99
Date

Recommended By:

Carl R West

CARL R. WEST
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10/8/99
Date

Approved By:

Gary L. Gallegos

GARY L. GALLEGOS
District Director

10-11-99
Date